Louisville Metro Tree Advisory Commission
June 6, 2012
Centennial Room
Louisville Free Public Library, Main Branch
Meeting Notes

I. Welcome and Announcements: Katy Schneider and Henry Heuser, Jr.

Katy Schneider and Henry Heuser, Jr., Commission Co-chairs, welcomed Louisville Metro Tree Advisory Commission (hereinafter, "Commission") members and guests.

It was announced that Commission member Katie Green was moving away and would no longer be able to be participate in the Commission. She was thanked for her service and a replacement is being sought. A new District 10 member was expected to join, but was not in attendance for an introduction.

Meeting minutes from Commission meetings on March 10 and May 22 were approved.

II. Secretary/Treasurer's Report: Allen Steinbock

Allen Steinbock, Commission Secretary/Treasurer passed ballots to Commission members to vote on proposed names for the 501(c)(3) fund being established to support Commission projects.

III. Presentation: Dr. Brian Stone

Katy Schneider introduced Dr. Brian Stone, Jr, Associate Professor of City and Regional Planning at Georgia Tech and author of the new book *The City and the Coming Climate: Climate Change in the Places We Live*.

As Dr. Stone began his presentation he noted that it had been tailored to issues that were particularly relevant to the Commission's work and to trends that were observed in data specific to Louisville as compared to other large cities throughout the nation. He began by explaining the concept of an urban heat island (UHI), which is the difference between rural and urban temperatures. Louisville's average temperature is increasing by approximately 0.5 degrees per decade and the UHI effect in Louisville has increased more rapidly than has been observed in other cities. Dr. Stone explained that there are 3 drivers of the UHI: loss of vegetation, replacement of vegetative cover with impervious surfaces, and waste heat from cars, buildings, etc. The first two account for roughly 75% of the UHI.

Data used by Dr. Stone shows that the Louisville metropolitan area has a little over 30% tree canopy cover, with the urban core showing only 10%. This is much lower than any other city included in his research (the top metropolitan areas) east of the Mississippi. One factor that adds to Louisville's challenge in maintaining or increasing canopy cover is the fact that the dominant land cover outside of the city is agricultural use. This was contrasted with a city like Atlanta, where the dominant land cover surrounding the city is forest. Dr. Stone also used aerial photography to illustrate that in addition to the amount of tree canopy, it is also important to note where that canopy is in relation to the streets. He compared a portion of the Highlands neighborhood, where trees line the streets, with a portion of the Portland neighborhood, where trees are present, but predominantly in the interior of the residential block (*i.e.*, backyards). Dr. Stone pointed out that while those interior trees may shade the houses, they do not shade the street, where the pavement heats up and contributes to the UHI. This is especially relevant in examining why Louisville is warming faster relative than other cities as surface temperatures warm faster in areas without trees. Dr. Stone noted that global temperature increases will likely be amplified in places like Louisville, as will regional heat waves.

Dr. Stone ended with recommendations for a heat management plan. This starts with inventorying trees and building materials at a block or parcel level. This includes trees, but also materials that contribute to the UHI such as paving and roofing materials. This resource should be used to develop policies, ordinances, or incentives to increase the use of highly reflective building materials. Likewise, Dr. Stone recommended engaging in surface temperature analysis and mapping to help guide our efforts and to use scenario modeling to support the heat management plan. Scenario modeling would help evaluate the effectiveness of strategies proposed before implementation.

These information resources should be used to undertake Dr. Stone's next recommendation, to overhaul the city's tree ordinances. Dr. Stone cited Atlanta, Nashville, Memphis, Birmingham, Charlotte, and St. Louis as cities to look to for examples. Specifically, the Commission should look at enforcement provisions, establishing minimum canopy coverage requirements by land use class, and developing a tree removal permitting system that supports tree replacement. Again, Dr. Stone pointed to Atlanta for an example of such a permitting system.

In addition to policy and ordinance development to protect the tree canopy, Dr. Stone recommended that the city launch an aggressive tree planting campaign. This should include outreach that emphasizes the benefits of urban trees. These benefits include increased property values, storm water control, improved air quality, decreased energy use, and carbon dioxide sequestration, among many others.

Lastly, Dr. Stone recommended a green area ratio ordinance. This would require a balance of green space to paved/built space in the urban area. This includes green space beyond canopy cover and would allow for a menu of options to be developed to meet the requirement. This could include trees, landscaping, green roofs, pervious paving, bioswales, etc.

IV. Discussion

Commission members asked several questions of Dr. Stone. The first inquired about how a city with lots of brownfields might address this UHI issue. Dr. Stone noted that brownfields often offer great infill development opportunities. Several Commission questions were in regard to his thoughts on tree ordinances, including where does enforcement start and how. Dr. Stone pointed to the need for clear enforcement mechanisms in the ordinance that state when a tree can be removed and when a permit is required, as well as the need for a city arborist and staff that can do site visits and conduct

monitoring. Next, what would be covered in an ordinance? Dr. Stone felt that in order to be a strong ordinance, both public and private property should be covered; a legal concept that has been upheld numerous times in court. When asked where to look for recommendations, Dr. Stone noted that the American Planning Association had a number of technical reports relevant to the subject. Also on the subject of a permitting requirement, Dr. Stone was asked how that would work for downed trees, to which he replied that such requirements do not apply to downed trees, nor do they generally apply to trees being removed due to disease. Regarding tree services, the property owner would have the responsibility to obtain the proper permit. However, in those situations, the tree service is required to be licensed and if they remove a tree that doesn't have the proper permit, they could lose that license. If a utility is doing work they generally don't need a permit if doing so in a utility right of way, but would if doing work on private property. To mitigate the financial impact of such requirements on low-income individuals, ordinances can contain exceptions and hardship exemptions. Also the fee for tree removal can be waived if the tree is replaced.

Regarding the Louisville data used in his research, Dr. Stone stated that the temperature data was from the airport, as was the data from all other cities in the data set. Also, Dr. Stone was asked if he noticed any specific geographic resources that could help or hinder Louisville's tree canopy protection efforts. Dr. Stone pointed out the abundant water resource that we have in the Ohio River with which to maintain the canopy.

Lastly, Dr. Stone received questions about what other cities are doing. Some cities that Dr. Stone said have been successful in engaging the public include New York, Denver, and Houston. He pointed out that this engagement has been as much of a branding effort as anything and that public/private partnerships can be very successful. With regard to funding tree maintenance efforts, Dr. Stone pointed out examples in Los Angeles, a privately funded effort that has seen mixed results, and New York, where maintenance is publicly funded and has a lot of commitment behind it. Dr. Stone also addressed the funding needed for large scale planting programs. This cannot be successfully funded by the permitting process that is limited to tree replacement, but should be funded at a level commiserate with other infrastructure needs.

V. Wrap-up

Allen Steinbock announced that the tree fund naming ballots had been tallied and that out of 14 votes, "Louisville Tree Fund" won out with 8 votes.

Everyone present was reminded that Dr. Stone was speaking that evening at Glassworks as part of the Urban Design Studio's Sustainable City Series.